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ABSTRACT

SERVE offers a series of publications entitled "Hot Topics," research-based documents which focus on relevant issues of the day that are important in the region. This document, the first in a series of publications, is a practical guidebook to designing and developing youth apprenticeship programs to prepare noncollege-bound high school students for work. Section 1 is an overview of youth apprenticeship that includes information on the history of apprenticeship and explains why youth apprenticeship is needed in the United States. Listed in section 2 are the following: the characteristic components and benefits of youth apprenticeships; youth apprenticeship program coordinator responsibilities; and typical components of tech prep, cooperative education, internship, school-based enterprise, vocational technology high school/center, and career academy programs. The following key components in school-to-work transition programs are discussed in section 3: commitment, collaboration, business involvement, training and staff development, applied teaching, real-world experience, flexible scheduling, funding and resources, and continuity. Examined in section 4 are the following critical issues in youth apprenticeship programming: vision and concept, attitudes, recognition/credentials/standards, program evaluation, marketing, and public choices and public agents. Sections 5-7 contain the following: names/addresses of 103 state and national resource organizations; list of 56 suggested periodicals, journals, newsletters, and documents on models; endnotes, and 71-item bibliography. Included throughout the guidebook are profiles of exemplary youth apprenticeship programs and descriptions of successful program practices. (MN)

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Youth Apprenticeship: A School-to-Work Transition Program



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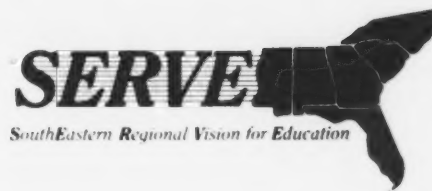
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SouthEastern Regional Vision for Education

Youth Apprenticeship: A School-to-Work Transition Program

May 1995



SERVE
South Eastern Regional Vision for Education

associated with the
School of Education
University of North Carolina at Greensboro

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About SERVE

The SouthEastern Regional Vision for Education (SERVE) is the federally funded education laboratory serving Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina. Governed by a coalition of business leaders, policymakers, and educators, SERVE works with states, districts, and schools to improve educational outcomes, especially for at-risk and rural students. SERVE's mission is to promote and support the continuous improvement of educational opportunities for all learners in the Southeast.

SERVE conducts a variety of applied research and development projects to meet regional needs. During SERVE's first five years, it has made progress developing products and services designed to:

- help educators implement alternative assessment techniques in their classrooms and schools.
- assist schools and districts in designing and implementing formative teacher evaluation systems.
- provide information on implementing site-based accountability.
- improve compensatory and remedial education in rural schools.
- increase student motivation related to achievement and attendance.
- support a rural school-business partnership model and network.

In addition, SERVE has conducted studies to:

- investigate workforce preparedness efforts in public secondary school education.
- identify state-level barriers to school restructuring and successful intervention strategies, with special emphasis on rural school systems.
- determine the impact of teleconferences on education in rural areas.
- understand the application of Total Quality Management to education.

To meet the needs of the Southeast, SERVE has offices in each of the six states in its region:

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Foreword

SERVE offers a series of publications entitled *Hot Topics*, research-based documents which focus on relevant issues of the day that are important in the region. These practical guidebooks for educators are developed with input from experts in the field and offer useful information, resources, descriptions of exemplary programs, and a list of contacts.

Youth Apprenticeship: A School to-Work Transition Program is the first in a series of publications which will closely examine various training programs that prepare high school students for work. Nearly three-quarters of high school students enter the workforce without college degrees. Unfortunately, many have been taking this step without the necessary academic or occupational skills.

Passage of the 1994 School-to-Work Opportunities Act represents an initiative by the federal government to focus on two of the country's top priorities: making America more competitive in the global marketplace and offering non-college bound students an opportunity to be productive members of society. Both the administration and Congress are currently taking steps to refine and consolidate federally-sponsored job training programs so that states can have more flexibility in administering them. The heightened interest in school-to-work transition comes in the wake of the widely disseminated 1991 report, "What Work Requires of Schools," from the Secretary of Labor's Commission on Achieving Necessary Skills (SCANS).

- What followed was considerable study on how to best prepare young people for academic and occupational advancement. Concerns over foreign economic competition, both in terms of quality products and inexpensive labor, triggered this comprehensive analysis of how America traditionally prepares its labor force and what can be done to improve it. One key finding: it's not the amount of time high school students spend at jobs so much as the quality of their experiences that affects their attitudes toward work.

It is also important to note that the Goals 2000: Educate America Act provides a framework for school-to-work opportunities by requiring a system to be standards driven and establishing a process for setting world-class academic and occupational standards for students in these programs.

Youth apprenticeship is one of several school-to-work transition systems that have proven successful in districts throughout the region and the country. Other approaches include tech prep, career academies, co-op programs and vo-tech centers. All are worthy of exploration by districts desiring to incorporate a school-to-work program in their curricula.

Section
1

**Youth
Apprenticeship:
An Overview**

Youth Apprenticeship: An Overview

For every dollar in tax revenue invested in the subsidizing of the non college-bound, fifty-five dollars are spent subsidizing college students.

—Lester Thurow

You know those fast-food cash registers with the punch-a-burger keypads, made to be so simple even the semi-literate can put in orders and pull out correct change? They symbolize one of the last low paying, anyone-can-do jobs America has left...(and) those registers and jobs will soon be gone too, as customers punch in orders, feed in money, and pick up food — all by machines, which will cook it. The question isn't just how tomorrow's teens will earn gas money. It's what high school drop-outs and graduates alike will be able to do for a living.

—Willard Daggett

From now until the year 2005, forecasters predict that the United States will graduate 30 percent more college graduates than there are college-level jobs¹ and that by the year 2005, 78 percent of all jobs will not require a college degree.² Despite this, the American educational system does a good job of preparing young people to go on to college but regularly fails to prepare the estimated 60-75 percent of high school graduates who do not.

In the six southeastern SERVE states — Alabama, Florida, Georgia, Mississippi, North Carolina, and South Carolina — agriculture and factory production drove the economic wheels of prosperity until fairly recently. Now, much of the Southeast's economic growth stems from new technologies that require highly skilled workers. As the area's economy becomes more and more integrated with the global economy, the Southeast's goods and services compete in a global marketplace with world-class standards of quality, design, and service. Clearly, a region's economic prosperity is directly linked to the skill, knowledge, and ingenuity of its citizens. If the Southeast's workforce cannot meet this challenge, profit-making companies will look to states, regions, and nations who can.

In such a market, change is not only necessary, it is inevitable. How well can a region or the nation implement the cultural and institutional changes needed to ensure continuing economic prosperity? The collaborative educational reforms that are necessary to implement an effective and equitable nationwide system of delivery for school-to-work transition programs must be accomplished despite our decentralized political system and the American penchant for individual choice.³

As educational and government agencies at all levels struggle with this dilemma, it is important to understand how the nature of preparing young people for the workplace has changed over time. Throughout history, adults have accepted as one of their primary responsibilities the instruction of their young in the skills necessary for physical sustenance and economic survival. A child's parents and extended family taught the necessary skills of hunting, farming, homemaking, etc.

Occupation	Projected % Increase (1992-2005)
Home Health Aides	138%
Physical Therapy	93%
Paralegals	86%
Correction Officers	70%
Child Care Workers	66%
Radiology Techs.	63%
Legal Secretaries	57%

History of Apprenticeship

Apprenticeship emerged as a system of skill training in ancient Greece and Rome. Over time, craft guilds evolved, as did the system and structure for training which lends an historical view of apprenticeships: a master / apprentice relationship in which the apprentice worked to reach journeyman status. In the best cases, the master craftsmen saw the care and education of young people as their civic responsibility and ensured the training regimen was both thorough and well-structured. The system was transplanted to America in colonial times.

With the advent of mechanization and the ensuing Industrial Revolution, the nature of learning an occupation changed. Living with a master to learn a skill was no longer necessary; workplace skills and apprenticeships altered to accommodate the machine age. Wages replaced the former compensation of room and board and bartering for services. Short-term apprenticeships which taught narrow, machine-dictated aspects of a skill or production process phased out master craftsmanship. By the turn of the 20th century, in the US, master craftsmen were generally either immigrants who brought their skills with them, or self-taught men who had learned their skills by observation and trial and error,⁴ because this country no longer had a system in place for training craftsmen.

In terms of modern industry, apprenticeship is roughly defined as a system in which a young worker is given thorough instruction and experience, both on and off the job, in all the practical and theoretical aspects of the work in a skilled trade. An apprentice is generally deemed a special kind of learner in that he is being trained in a traditional and formally recognized skill trade.

The number of master craftsmen continued to dwindle as mass production emphasized the drill of the assembly line. At the same time, less skilled immigrants and youths leaving the farm continued to pour into America's cities. Finally, with passage of the 1917 Smith-Hughes Act, federal funds provided for vocational education in the public schools.⁵ Now, rather than expecting parents to arrange for their children's post-primary school occupational training in a system that was no longer economically relevant, the US assumed an obligation it had hitherto avoided. Instead of allowing America's youth to leave primary school with no occupational training, the country chose collective responsibility for educating and training its young in skills necessary for economic survival.

The adult labor market still required large numbers of production workers, but America also needed construction workers, roofers, brick masons, mechanics, and a host of other tradesmen if it was to continue to grow and prosper. In the 1920s, business, education, unions, and government leaders perceived the need for a national, uniform apprenticeship system and in 1937, the National Apprenticeship Act (*popularly known as the Fitzgerald Act*) established the Apprenticeship-Training Service (*now the Bureau of Apprenticeship and Training*) within the US Department of Labor.⁶

Under this Act, the Bureau of Apprenticeship and Training (BAT) provides service to existing apprenticeship program sponsors and assistance to sponsors who want to establish an apprenticeship program. The BAT does not conduct actual apprenticeship training programs; rather, it provides administrative support and regulatory organization for those that do. BAT currently classifies over 800 occupations as "apprenticeshipable." These occupations tend to be manual, mechanical, or technical in nature; require specialized skills and knowledge; and are generally learned in applied, on-the-job settings.⁷

This apprenticeship system, however, is primarily designed for adults already in the workforce and has had mixed results. Evidence shows that apprentices are better motivated, learn their jobs faster, attain craftsman status quickly, and are more likely to become supervisors than workers trained in other ways.⁸ With the exception of the construction trades, US employers rarely use apprenticeship programs.⁹ The number of workers receiving training as registered apprentices declined during the 1980s; the total number of registered apprentices in the US is equivalent to two percent of the population of the nation's college students. Few women enroll in apprenticeship programs, and minorities and women tend to be concentrated in lower paying apprenticeships.

Until the passage of President Clinton's School-to-Work Opportunities Act, public resources, such as state and federal moneys, for administering, supporting, and establishing apprenticeship programs were on the decline.¹⁰

The Need for Youth Apprenticeship

Parents usually encourage their children to pursue career goals more allied to their cultural biases. Teachers are not oriented to the world of physical labor and most vocational guidance counselors do not understand the far-reaching implications of apprenticeship.

Unless reversed, these trends and attitudes appear to bode ill for schools, communities, and governments seeking to upgrade existing school-to-work programs and establish new programs for secondary school students. However, while program designers should examine both the successes and failures of the adult apprenticeship program, it is important to keep in mind that the adult labor market is also undergoing considerable alterations as workers, employers, and government agencies search for viable and affordable ways to train and retrain adult workers for an ever-changing economy.

Because they lack both training and psychological preparation for the world of work, many young people spend up to a decade drifting from job to job before finally settling into stable employment. Some eventually acquire the necessary skills and knowledge for a particular job through observation or trial and error; Some chance upon employers or co-workers willing to train them informally on the job; Some manage to gain admittance to a more formal adult apprenticeship program; Some never really find a bona fide occupation.

All highly industrialized nations are working to link education and training, but programs and approaches reflect deep cultural roots, national predispositions, and historic traditions. It is tempting to look to our primary economic competitors, Germany and Japan, for solutions to America's school-to-work transition problems. Both have been highly successful, for different reasons, in ensuring the workforce preparedness of their youth.

Japan's homogeneous population values the collective good over individual desires, and its economic and political systems are closely intertwined. In conjunction with major Japanese corporations, it is the government ministries (*not the corporations themselves*) that decide the country's long-range economic goals. This far-reaching decision-making by government entities go beyond a point acceptable to most Americans. There are other cultural differ-

In the near term, economic change leaves people behind... What we are witnessing is the obsolescence of an entire class of worker: the industrious but modestly educated man or woman for whom a factory job meant economic security... "If this society is to join the new global economy, we have to create pathways for all people to get good jobs. Otherwise people will try to preserve the past," stated Reich. That past — more attractive as it recedes — is the factory... Reich sees more clearly than most that (trade agreements alone) can't reverse the trend toward the marginalization of the non-college trained. "A lot of people haven't got it in their heads how important skills are" Reich said. "Kids don't see the relationship between school and work. That's got to change... employment isn't cyclical, the way it used to be. It's structural now."

— Columnist William Raspberry's interview with Labor Secretary Robert Reich, November 1993

My hunch is that we, and other countries, will have to find (a way of restructuring schools) in terms of our own unique traditions. In our case, the states, with some federal coordination, will set the broad objectives. Local initiatives and networking for exchange of ideas and policies will provide the means.

— Arthur G. Wirth

ences. Although many Japanese women do pursue higher education, many remain at home once they have children. They elect to concentrate their energies on their children's education, tutoring their children daily after school. These factors, along with Japan's tradition of lifetime employment, combine to prepare Japanese youth for and channel them into occupations which will fill industry needs and maintain the nation's economic viability.

Germany's "dual system" excels at integrating academic and applied learning throughout its educational system, but that system intrinsically and permanently tracks students into one of three types of schools early in their lives¹¹ — an option most Americans consider both unworkable and undesirable. And although the degree of intermingling the economic goals of private and public sectors is not as extreme as in Japan, the German government does play a more prominent role than the American government in attempting to control the national economy.

Conclusion

In the United States, both public and private entities must find a way of delivering these much-needed programs in concordance with American values. Development of youth apprenticeship programs on a broad basis would no doubt boost productivity, improve the preparation of youths for the skill demands of a global economy, and offer minority youth an avenue into the economic mainstream. Through researching existing literature and through site visits to exemplary school-to-work transition programs, this report enumerates the various types of programs offered both inside and outside the six SERVE states and determines key components for a successful program. This report also considers potential barriers to establishing and maintaining successful programs and offers suggestions for overcoming those barriers.

By revamping existing school-to-work transition programs, creating new programs, and inviting all the players to the table—parents, students, teachers, guidance counselors, principals, business people, administrators—we can draw on both the collaborative examples of other countries and our own democratic tradition.

Through training partnerships with the private sector, we can establish more open lines of communication and break down walls of mutual distrust. Apprenticeships will not succeed unless business considers them a sound investment. By addressing the need for training programs which can accommodate rapidly changing economic conditions, we can help the next generation develop a consciousness about lifelong learning and provide workers with high-level skills that the private sector so desperately needs.

Section
2

**Types of
School-to-Work
Transition Programs**

Types of School-to-Work Transition Programs

To better understand youth apprenticeship, it is important to examine the various types of school-to-work transition programs. Notwithstanding the pressing need for youth apprenticeships and the positive impact of programs already in place, it should be noted that no specific program will work in each and every school district or in each and every school. The needs of both the community and the students may call for a number of different kinds of school-to-work programs. In order to develop school-to-work transition programs or integrate them with the curriculum, each community must assess its unique needs and resources and address its own workforce preparedness issues.

By definition, a school-to-work transition program links employers and schools in some manner. It seems that the more successfully a program integrates academic and vocational learning, school-based and work-based learning experiences, and secondary and post-secondary learning opportunities, the better the chance its students will improve their skills, find jobs, and keep open their options for post-secondary education.¹

Results from school-to-work transition programs indicate that students' attitudes toward school and work improve with better attendance rates and a greater understanding of the connection between school and work.²

Youth Apprenticeships

Patterned after the U.S. Department of Labor's established apprenticeship program that serves adults (generally in the construction and metal working trades), youth apprenticeships are designed to expose students to work day and workplace experiences while in high school. Programs generally focus on training students for technician level jobs that require more than a high school diploma. Structured learning experiences in the workplace are required as well as the highest degree of business involvement. Employers play a central role in designing and running youth apprenticeships.

Youth apprenticeship programs are typically

- offered in junior and senior year involving some aspect of a paid workplace experience.
- characterized by changes in state, district, or local policies regarding such things as the number of classroom periods in a particular day, the number of minutes in a classroom period, district-provided transportation regulations, or the use of non-certified personnel for technical instruction.
- characterized by involvement of employers, and occasionally labor and management groups, in organizing the program, revising curricula, evaluating students, mentoring on job sites, helping to develop work attitudes, and instructing in the classroom.
- improved by integration of academic and vocational education.
- scheduled flexibly.
- enhanced by strong links with post-secondary education programs.
- characterized by assignment of a staff person to coordinate the program's implementation and to facilitate among students, parents, employers, secondary schools, and post-secondary schools.

Students generally emerge from a youth apprenticeship program with several certificates, including a high school diploma and an industry certificate of mastery. Many programs include a continuing education component at a community or technical college. Some employers guarantee students a job when they complete the youth apprenticeship program, while others can only offer priority hiring. Ashland, Mississippi's TCI Industries funds continuing education for those work-based learning graduates they hire permanently.

Though too soon to gauge the economic impact YAPs may have on wages, types of employment found, and labor force participation rates, it is clear that youth apprenticeship programs do the following:

- improve attitudes toward both school and work;
- increase attendance;



YAP Coordinator Responsibilities

The Coordinator is one of the most important keys to the success of any Youth Apprenticeship program. The Richmond County (NC) School District, which has one of the most highly regarded YAPs, says the Coordinator should

- inform eligible students about the Youth Apprenticeship Program.
- screen candidates and will encourage those students with potential to benefit from the Youth Apprenticeship Program to apply.
- assist student applicants with the application process and materials.
- sign recommendations for the student applicants who have his/her support.
- arrange an orientation session about the Youth Apprenticeship Program for students and their parents. The teacher-coordinator will notify students and their parents about the session and will also conduct the session.
- with the assistance of the employer and a Department of Labor representative, prepare a training plan for the student. The plan will be used as a basis of evaluating the student's progress.
- negotiate and expedite the placement of the student in high school and community college courses that will provide instruction related to the apprenticeship training.
- visit the employer and observe the progress of the student at least once a week.
- monitor the student's progress in school, as well as work, and will keep up-to-date files on the student, to include copies of six-weeks grade reports and Wage and Hour Records.
- provide regular and timely reports to the appropriate authority.
- coordinate visits and evaluations.
- endeavor to adjust all complaints with the cooperation of all parties and will have the authority to withdraw a student from the Youth Apprenticeship Program.
- confer with the student's parent during the school year and will keep a record of all conferences.



- help students understand the connection between school and work;
- raise the quality of job placements; and
- drive up student enrollment in college-track math and science courses.³

Tech Prep

This school-to-school program, often referred to as "2+2," links the final two years of high school with two years at the community college level. Typical components include

- collaboration by teachers in both high schools and community / technical colleges and industry personnel in developing curricula, teaching lessons, and monitoring students both at school and at the worksite.
- careful sequencing of the academic curriculum including advanced math and science courses (and occasionally advanced language and social studies courses) so that students can continue schooling if they so choose.
- adequate occupational training which ensures that students can handle technically demanding employment.
- agreement between both educational levels so that course work is neither repetitive nor redundant.⁴
- two types of certificates given to students upon graduation: a high school diploma and a certificate or diploma from the community / technical college. Students may receive an industry-specific certificate if the tech prep program has a work component.
- an advisory role for the businesses involved.

A large amount of federal money is being made available to tech prep programs — they are one of the fastest growing curriculum innovation programs in the United States. Many states are developing tech prep administrative structures that are used as "umbrellas" over other school-to-work transition programs.

Co-op Programs

By far the most common and widespread school-to-work transition programs, cooperative education programs generally require students to attend a work / study class (called a co-op class) and to take



core vocational courses in a specialty area while working part-time. Co-op programs are typically

- offered to juniors and/or seniors in high school.
- paid, on-the-job training, employment that follows one or two introductory courses. Course work continues with some type of workplace component throughout the program.
- organized and administrated by school personnel rather than by employers. Employer participation has traditionally been limited to providing some training while the student is in the workplace and providing the school coordinator with an evaluation of the student's performance and skills.
- located in employment settings where co-op students learn new skills, use existing reading and writing skills, and perform meaningful work. They are also often employed in positions related to their desired career.⁵

The school's co-op coordinator works with participating employers to ensure students learn and perform the job tasks required of them. Coordinators are most often vocational education teachers and are generally responsible for recruiting employers; drawing up the contract between the student, school, and employer; making on-site visits to the students' workplaces; and helping the students adjust to the demands and requirements of the adult workplace. Some programs designate a staff member whose sole responsibility is to coordinate the co-ops.

Internships

Like co-op programs, internships generally require students to take some type of pertinent vocational education course while working part-time. On-the-job training and employment — frequently in business and marketing settings — provides workforce linkage. Typical components are

- a two-year offering open to juniors and seniors in high school.
- introductory course work occasionally offered interns before their placement in a job. During their tenure, they are exposed to continuing course work with some type of workplace component.

- administration by a secondary school with a coordinator to perform many of the same functions as a co-op coordinator. Sometimes, the same person coordinates the co-op and internship programs, and internships are often classified under the co-op umbrella.

Internships are more useful for career exploration than for career development. Students who cannot schedule co-op courses often opt for internships, which may or may not pay.

School-Based Enterprises

Primarily a school-sponsored activity involving vocational education students, school-based enterprises are actual student-run businesses. Students take individual or sequential courses and offer either goods or services, developing both their occupational and business skills. Profits are either funneled back into the program or used to pay student wages.⁶

School-based enterprises tend to generate products or services that meet community needs and are more prevalent in rural areas.⁷ Home construction trades, child care, and retail sales are often feasible school-based enterprises.

Students in such programs seem to have a more positive association with work than do their peers who hold jobs outside school. These students also seem to show improved attitudes about school and work, have better perceptions about the connections between school and work, and exhibit a sense of satisfaction with school.⁸ Often, however, a school-based enterprise bears no relation to private sector needs and fails to prepare students for a lifelong profession.

Vocational Technology High Schools/Centers

Vocational technology high schools (where students attend all day) or centers (where students attend part of the day) specialize in hands-on skills-building in an academic setting. A workplace is often a component, and local businesses frequently work closely with these schools and centers through craft, advisory, or business committees.

If the academic and workplace experiences have been positive and practicable, vocational technology center students can graduate with highly marketable skills in addition to academic qualifications that allow for further education or specialized training.



Program Profile

Seminole County, FL

Seminole County's Youth Apprenticeship Program is aimed at serving the needs of what is sometimes referred to as the "neglected majority." Through business receptions for students and parents, student awareness meetings, and individual counseling, students from six high schools are recruited into one of two apprenticeship programs: one with the Siemens Corporation, an international electronics firm based in Germany, and another in the construction area. In both instances, the businesses themselves contacted the school because they could not find enough skilled workers.

The Siemens program, now in its second year, works with 11th and 12th graders. Younger students participate in field trips and "shadowing" experiences. Siemens pays older students to work six hours each week in an on-site training lab. Approximately 30 students, most of whom were recruited from the electronic sections of the Tech Prep program or from higher level math courses, are involved in the Siemens YAP.

A U. S. Department of Labor YAP grant helped establish the program. Siemens funded a teacher's two-week visit to Germany to learn about the European apprenticeships programs. Total funding from both sources was \$200,000. Ironically, when Seminole County YAP students took a competency test similar to one taken by European apprentices, the Seminole County students outscored their foreign counterparts.

The construction YAP, a two-year program, involves both 11th and 12th graders. As an example of seamless transition, the school works closely with businesses to form a curriculum, beginning in ninth grade, which should sufficiently prepare students to enter the program. Businesses have helped equip and supply labs as well as helping to obtain state and local funding. The community college provided vital curriculum planning assistance as well. Ninety-seven students are involved in the construction YAP. These students also work 300 hours in the summer on a site to learn a construction trade for pay.

Administrative and teacher support has been essential to the success of all of Seminole County's school-to-work transition programs. Intensive staff development, awareness-building, and a practice of encouraging the rethinking of existing paradigms have contributed to the establishment of these exemplary programs. Equally important has been the strong leadership from the superintendent, the school board, and participating principals; enthusiastic teachers; funding sources from local, state, and national levels; a supportive business community; and enthusiastic and supportive parents, who have been involved on the development committee with businesses, teachers, community college representatives and university personnel.

Seminole County's success flows also from its attention to seamless transition: Elementary students are exposed to different career opportunities; Middle school students receive hands-on applications of technology and careers; Eighth graders take tests to ascertain their interests and aptitude; and High school students involved in a school-to-work program receive guidance in focusing their plans and efforts beyond graduation.

At the outset, teachers and administrators received intensive staff development, learning new teaching methods, new ways to utilize technology, and program planning. Teachers who want to participate in the program must demonstrate a willingness to work across discipline lines: technical writing teachers work with automotive mechanics teachers, and science teachers work alongside machine shop instructors. In such integrated classrooms, students learn to apply concepts in practical settings. Language is posing a new challenge, due to an influx of Hispanic students. The county must address its obligations to incorporate English as a second language.

Teachers and administrators seem determined not to see the program fail. If a student does not demonstrate complete mastery of a given subject, he or she receives additional assistance and tutoring. Flexibility is built into the program and allows students to leave the program at the end of a semester if they so choose. To handle scheduling problems, participating schools moved from regular 50-minute periods to two-hour block periods.

As a result, teachers, parents, and businesses have witnessed a phenomenal increase in students' academic performance, perhaps due primarily to the fact that students see a correlation between learning and jobs.

Though its initial efforts were directed at making the curriculum as relevant to the workplace as possible, the greater challenge facing Seminole County's school-to-work transition programs is applying the programs on a widespread basis.

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Career Academies

Career academies are special focus programs in which academic and vocational instructors collaborate around a theme. These can take the form of a "school within a school," but many times career academies involve the entire school.

The intent of each academy is to develop one or more concentrated programs in specialized areas; these generally are organized around various career aspirations. Career academy themes include finance, travel and tourism, public health, transportation, electronics, communications, construction, graphic arts, education, and public service.⁹ Program components typically include

- schools setting their own curriculum strategies, such as block scheduling or team teaching, and designation of specific personnel to coordinate curriculum changes and scheduling specifics.
- incorporation of flexibility into many aspects of the program. For example, individual teachers may meet regularly with the principal to develop curricula which meet their students' needs.
- sequential courses taken together with the same teachers frequently working with the students over the course of the extended program.
- active involvement from local employers and qualified representatives of the respective career theme. Employers can serve on advisory or steering committees; act as mentors; help develop appropriate curricula; sponsor internships, scholarships, or awards; and even provide teachers with summer jobs related to the school's area of focus.

Many career academies exhibit tremendous gains in student performance and graduation rates.

Summary

School-to-work transition programs are generally designed with the "neglected majority" in mind — students who are not going to college. However, with careful planning and a clear understanding of objectives these programs can be modified and adapted to meet the needs of both special education and at-risk students. The programs may be subsidiaries of larger school-to-work transition programs, or they may operate independently.



**Key Components
in School-to-Work
Transition Programs**

Key Components in School-to-Work Transition Programs

Some common strands emerge among school-to-work transition programs. This section refers to those strands as key components essential for a successful school-to-work transition program. Without these key components in place, a program will likely suffer mediocrity, or worse.

Field research included individual interviews with exemplary school-to-work transition program personnel at sites within each state, as determined by the state vocational director, community college presidents, and SERVE contacts. Attention focused on how programs got started, key players and their roles, specific program components, exemplary characteristics, demonstrated improvements, and barriers or problems.

Commitment

- Invite all players to the table at the outset.
- Agree on a clear vision of what should be accomplished.
- Delineate each player's duties and responsibilities.
- Meet periodically to discuss new ideas, problems, solutions.
- Monitor progress to ensure follow-through.

Collaboration

- Link school, community, and workplace.
- Promote agreement on goals and objectives.
- Meet business needs.
- Build solidarity.
- Focus on students' best interests.
- Mandate parental approval of their child's participation.

Business Involvement

- Set standards and certify programs.
- Help design curriculum.
- Offer employment opportunities.
- Provide staff development for instructors.
- Donate and purchase equipment.
- Serve on advisory / steering committee.
- Recruit businesses.
- Contribute scholarships and awards.

Training and Staff Development

- Incorporate time to plan and practice.
- Integrate subject areas.
- Integrate school-based and work-based learning.
- Redesign curriculum.
- Pay attention to scheduling.
- Collaborate with business, community college, university, and others.

Applied Teaching

- Increase subject material retention.
- Spark student interest.
- Increase instructor's productivity.
- Improve allocation of time.
- Foster communication and collaboration.

Real-World Experience

- Apply classroom-based concepts and theories.
- Provide opportunities to practice skills.
- Produce tangible output.

Dynamite Idea

Teamwork and a Vision

Beaufort County's Youth Apprenticeship Program is designed to improve the lives and futures of young people. It took visionaries to see the great returns possible through this program, which serves as one of the best examples of focusing on a need through collaboration, determination, and business involvement.

A major employer in the area, National Spinning Corporation, felt that students graduating from the local high schools were not prepared with the skills needed to be successful employees in their plant. To address the deficiency, company representatives approached the schools.

The next contact was the local State Department of Labor representative, whose initial reaction was to question whether sixteen and seventeen year olds were suited to work in the plant. National Spinning's response demonstrated its strong determination to address what it perceived to be as a major problem. The company asserted that it would start a workplace training program, whether or not the Labor Department would endorse the program. Seeing the strong interest and determination in those proposing the project, the Department gave its full support and cooperation. The local superintendent, principal of the high school, the representative from National Spinning, and the vocational director for the system were among those who formed the Central Planning Committee.

The school advertised the positions, reviewed student transcripts, sent out applications, and later interviewed students who expressed interest. After selecting a number of students, the company invited them and their parents to National Spinning for a reception where all had an opportunity to learn more about the new program. After another round of interviews, six finalists were selected. No grants were used in planning and implementing the program.

Four students are now in their second year with National Spinning. Two students dropped out of the program and have since decided to attend four year colleges.

The program teaches responsibility, sound inter-personal skills, and the importance of applied knowledge. Students work in teams at the company's various departments and, after graduation, will begin work full-time. All benefits and seniority begin from the time they entered the program in their junior year. Students are paired with a National Spinning employee who acts as a mentor.

The company points out that despite the historically high turnover rate of 18 to 26-year-old workers, the necessary training and retraining is a worthwhile investment. The student learns a trade and the company will have a highly skilled employee.

There are now a total of nine youth apprentices working in local businesses including National Spinning, a veterinary office, a dental lab, the local school system, a tool shop, and a manufacturing company.

Business involvement led to partnering efforts among schools, involving an in-depth analysis and revamping of the existing school curriculum and course offerings. The main focus of the Youth Apprenticeship Program is improving the lives and futures of area youth with the sponsoring businesses all showing a willingness to devote time and effort to the program. This took visionaries who saw the great returns possible through this program.

The success of any program hinged upon need. An approach of creating a program for creation's sake alone lacks focus and a common goal. Team-work is a key component with no partner attempting to outshine the others. Each member shares the commitment to quality education for all students.

The Beaufort County Youth Apprenticeship Program demonstrates that a school-to-work program benefits from having an industry as its driving force. Communication and regular evaluation are critical: Beaufort County's advisory committee meets at least every other week. All the sponsoring businesses devote time and effort to the young people.

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- Offer actual learning experience.
- Instill work ethic and responsible work-site behavior.

Flexible Scheduling

- Make better use of students' and instructors' time (*adaptability and creativity*).
- Spend more time on task (*depth and detail*).
- Combine or add periods.
- Recognize importance of administrative support.

Funding and Resources

- Broaden funding base.
- Allow parents and students to contribute toward meeting budget.
- Utilize grants.

Continuity

- Provide seamless transition into adult labor market.
- Involve students, parents, instructors, and administrators at all grade levels.
- Avoid duplication and foster acceptance of credentials.
- Promote communication and collaboration.

Commitment

Failure at the outset to be all-inclusive, share a common vision, and commit to respective duties and responsibilities dooms any program. Everyone involved in a school-to-work transition program should agree on what needs to be accomplished and the roles of all participants. Policies and procedures should be established. Mechanisms for monitoring a program's progress, airing problems soon after they arise, and implementing solutions must be developed. A program's success will be measured in large part to the degree each participating entity follows through with its initial commitment.

Collaboration

Exemplary school-to-work transition programs thrive by virtue of their collaborations with community colleges; businesses; universities; school boards; superintendents; principals; teachers; parents;



local governments; local chambers of commerce; and state, regional, and national organizations and foundations. Collaboration helps link the school and the workplace and promotes agreement on goals. Collaboration is not just sharing information — true collaboration in school-to-work transition programs is relinquishing both power and turf for the sake of the students. Without collaboration, a successful program is not possible.

Business Involvement

Business involvement is the cornerstone of any school-to-work transition program. If workplace experience is a facet of a program and occupational competencies are to be set, businesses must be involved in that process. Depending on the type of program, their further involvement can take the form of serving on a steering committee, helping to revamp or design the curriculum, screening applicants, sponsoring summer work experiences, or staff development for teachers, offering employment, recruiting other employers, providing funding or equipment for the programs, or providing student and teacher scholarships or awards. Businesses must also be included if there are any certification or standards setting processes taking place. Regardless of the extent of their involvement, businesses must be major — and equal — players in both program design and implementation.¹

Training and Staff Development

Training and professional development for school administrators, teachers, and counselors ought to be integrated into their work of redesigning curriculum, scheduling, and collaborating with businesses and community colleges. Teachers must be allotted enough time to plan and practice blending academics and vocational education as well as school-based and work-based learning.

Applied Teaching

Once students see the classroom theory, concept, or knowledge applied in a workplace, they perceive both the context and content of school-based instruction differently. Teachers benefit as well: limited evidence indicates that teachers working in an applied setting feel more productive, and the quality of their teaching improves. The process of developing applied teaching fosters healthy communication and collaboration of all the involved players. Instructors complement each other's strengths. And, as they share the work load and responsibility, teachers find more time for planning.

Real-World Experience

Work-based learning exposes students to an environment conducive to the real-world application of concepts and theories taught in school. Students can apply their skills and knowledge through

*If you can't apply it, you
can't teach it.*

—Cocoa Beach Career
Academy Policy



Dynamite Idea

Staff, Mentor Training

Georgia's largest employer, Warner Robins Air Force Base, and three major aerospace manufacturers are all located in and around Warner Robins, Georgia. The Houston County School System encompasses Warner Robins and serves 17,000 students. Five high schools, a technical college, and Middle Georgia Technical Institute are in the district.

Two youth apprenticeship programs were developed in Houston County: an aerospace youth apprenticeship program (MGAYAP); and a health occupations youth apprenticeship program.

The Middle Georgia Aerospace Employers Association's need for training aircraft structural technicians was the genesis for the MGYAP. While the program was being designed, a tech prep grant became available and the MGYAP was developed. Participants were prepared to go forward with the project with or without the grant money because of the strong commitment shown by the industry and the three participating school systems.

The MGAYAP involves the Houston County, Bibb County, and Dodge County School Systems; the three Middle Georgia aerospace industries, Northrop, Boeing, and McDonnell-Douglas; and three technical institutes, Heart of Georgia Tech, Macon Tech, and Middle Georgia Tech. The consortium contracted with Middle Georgia Regional Education Service Agency (RESA), an educational service and consulting firm that provides services in many curriculum areas and is adept at collaboration. RESA's Angie Wilson, whose expertise is in vocational education, became the project coordinator.

Bibb County, a primarily urban county that includes the city of Macon, was paired with Boeing; suburban Houston County was paired with Northrop; and Dodge County, a rural county with 3,000 students and one high school, was matched with McDonnell-Douglas.

The Middle Georgia Aerospace Youth Apprenticeship Program is based on a "2+2" model that encompasses two years at the secondary level and two years at the post-secondary level. During the 11th and 12th grades, students take English, social studies, and an elective at their home high school. Then, providing their own transportation (a requirement of the program), Houston County students attend Warner Robins High (a magnet high school), where they take applied mathematics, principles of technology (an applied physics course), and basic blueprint reading and aerodynamics in the drafting lab. During classes at Warner Robins High, students spend three-period blocks together, and claim that the arrangement helps them to better tolerate each other in the workplace.



Program developers strive to integrate academics and vocational education in content and practical application. Students are encouraged to focus on one sizable project which applies to several classes.

The MGAYAP Planning Committee developed recruitment criteria and in January 1993, began recruiting 10th-graders for the program. Each high school submitted a list of 25 or more students, which was culled to about ten candidates per high school. The 20 students selected for the program had at least a 2.5 GPA, a good attendance record, good overall behavior, and three teacher recommendations. A panel composed of industry and technical institute representatives, a guidance counselor, a voc-ed director, and home high school principals interviewed the students. Acceptance of a student hinged 50 percent on the interview and 50 percent on his or her prior school record and recommendations. A cross-section of the general county population emerged, which helped the industries' Affirmative Action efforts. Eighteen students remain with three students intending to graduate with a dual college prep/vocational education diploma.

During the summer of 1993, all high school teachers, counselors, and instructional coordinators from the Houston County school system instructed aerospace students, as well as all high school counselors and instructional coordinators. They spent two weeks at Northrop which provided staff development. Instructors, counselors, and instructional coordinators from Dodge and Bibb counties attended similar staff development sessions at McDonnell-Douglas. Program personnel from all three counties then spent another week during the summer modifying the applied academic curriculum to make it industry-specific. Instructors from the different counties who planned to teach the same course worked together to include similar units and projects.

Students are assigned mentors in their junior year; attempts are made to match by race and gender. Jobs for the Future recommends a week for mentor training, but MGAYAP developers found most mentors could not take a full week out of their schedules for the training. MGAYAP mentors receive eight hours of training and some follow-up. Mentor training focuses on the characteristics and social and emotional development of teenagers and emphasizes good communication skills. Mentors are encouraged to meet with their students monthly, checking in weekly by phone to strengthen that relationship before students become immersed in the workplace setting.

Those in charge of the program agree that the training of teachers, counselors, coordinators, and mentors has been the key to the program's success.

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Scheduling can be a big problem. Some of our students come to Warner Robins High from other schools. Pulling all the schedules together and coordinating them requires a lot of cooperation and compromise on everybody's part.

—Robert Sipe, Supervisor Instructional and Vocational Ed.

work-based experiences at a job site; in some instances, the job site is brought to the students. Bona fide work experience means students perform work that is worthwhile (*i.e., they are producing an output that is meaningful rather than wasting time*), and they have a true learning experience (*i.e. they are not limited to routine, repetitious tasks*). However, their work needs to be structured, and they should receive adequate supervision and instruction.

Flexible Scheduling

Some schools utilize a scheduling system that combines two periods into one — commonly referred to as “block scheduling.” Students can delve into subjects in more detail with fewer interruptions. As a result, they spend more time in class and less time in the halls. Some schools add a period to the day; others let teams of teachers decide which solution is most appropriate for their purposes. In all cases, support from the school’s principal and central administration is essential for success.

Funding and Resources

Funding and resources are vital to any school-to-work transition program. Possible funding sources include federal, state, and local governments; businesses; foundations; community colleges; and universities. Creativity and persistence pay off, as does a careful examination of how to more efficiently and effectively use existing funds. Hiring an experienced grant writer to assist in the funding effort can pay off handsomely. In-kind contributions include donated time, equipment, and training.

Continuity

Continuity of curricula, communication, and collaboration through all grade levels helps provide students with a relatively seamless transition into the adult labor market. Programs must based the needs of the student, and continuity ensures that the needs of the students remain the central focus of the program.

Other Components

Most programs employ additional elements or variations on the components listed above. Other common components of successful school-to-work transition programs detailed in the following site visit reports include

- mastery of basic skills.
- inter-school system collaboration.
- placement coordinators.
- individual student learning plans.

- articulation agreements.
- career counseling.
- student/parent contracts.
- raising academic standards.
- volunteer service.
- work site documentation and assessment.
- certification or "credentialing".
- successfully utilizing technology.
- shadowing experiences.

Additionally, student input may help delineate components that they and the program participants, feel are important. Those components might include immediate and coordinated work experiences concurrent with vocational training; work and learning experiences that lead to careers with advancement potential; a formal system of recognition and accomplishment for achieving program objectives; and higher education credit for work-based learning. Some components, while vital to the success of certain programs, were not deemed to be critical to the success of school-to-work transition programs.

Examine all elements of a program, including those that are program specific, with the following principles in mind:

- **Foresight.** Create a clear vision of what has to be accomplished.
- **Flexibility.** Do not allow any element to track students onto a path that precludes a change of mind or aspirations.
- **Quality.** Guarantee a high-quality experience. If care is not taken to do this, the program has the potential to turn into a dumping ground for less able students.
- **Quantity.** Involve enough students in the program to warrant the time and effort put into curriculum reform.
- **Symbiosis.** Link school and work in a substantive way.



- **Progressiveness.** Avoid narrow, highly specific, or outmoded training.
- **Practicality.** Provide the potential for quality work placements, not just work experience.
- **Continuity.** Encourage schooling beyond high school and create mechanisms to ease the transition between different levels of schooling.
- **Equality.** Avoid gender or racial discrimination — directly or indirectly.
- **Harmony.** Do not contribute to adult job displacement since public moneys are being used to finance school-to-work programs.³

Section
4

Critical Issues

Critical Issues

Even though the actual experience of today's labor market is that people move back and forth between education and work as they mature, everyone assumes that every Jill and Johnny should go straight to college even though they haven't the slightest idea of what they want to do in life.

— Fortune Magazine

An apprenticeship program which lacks the requisite components, limits the players at the table, or fails to address problems in a timely fashion will fizzle rather than sparkle. Outlined below are a number of areas where difficulties and conflicts tend to arise, along with some suggestions for avoiding or overcoming them.

Vision & Concept

The people who fund, design, implement, or participate in any type of school-to-work transition program need to form a consensus for a vision and agree on the program's underlying concept. The term implies only *one* transition—from a learning environment to a work environment. The term suggests to some that school and work settings are separate¹ when, in fact, the opposite is true—school-to-work transition programs emphasize the integration of school and work. Some construe from the name that the process focuses on individuals moving out of one institution (a school) into another (a workplace).² In reality, the process focuses on addressing educational problems in both of those settings, rather than on the shift from one to the other.

"School-to-work transition" programs include models whose approaches encompass pedagogical reform and educational experiences beyond high school. Youth Apprenticeship Programs, Tech Prep, and Career Academies all fit this broader definition even though they generally do not fit the narrower "out of the school and into the workplace" criteria.³ However, advocating school-to-work transition programs *does not* constitute a call for abandoning the teaching of core subjects, such as literature, history, geography, science, and mathematics;⁴ it is a call to incorporate workplace training skills in the overall curriculum and to make secondary education more meaningful to students by placing it in a work context.

In addition to differentiating the various school-to-work transition programs and sharing a vision, program designers must define their target population. Most new school-to-work transition programs are aimed at non-college-bound students who can master technical subjects; these young people may not be faced with a lack of jobs but a lack of *quality* jobs. Many students who live in poverty with inadequate academic preparation may not be well served by school-to-work transition programs which are not specifically designed to bring them up to speed in technical areas. Designers

must understand that for these young people, the problems are *both* a lack of skills and a lack of jobs.

Although many contend that America's secondary education system is in poor shape, the challenge for preparedness in meeting the needs for society and global competition is to reform the system enough to effectively meet school-to-work transition needs. Effective reform may mean that some type of post-secondary education will become essential and that in high school students take certain academic courses to enter technical fields and/or post-secondary education.⁵ The nature and quality of school-to-work transition programs may well depend on how supporters view educational reform and the need for post-secondary education.

Attitudes

If the object of apprenticeship programs is to put young people in adult settings, program designers must help employers overcome their reluctance to hire young people,⁶ educate employers about the psychological stages of young adulthood, and find effective ways to help students through those stages.

Some researchers suggest that students, who are not college-bound, "waste" an inordinate amount of time between graduating from high school and finding long-term, stable employment.⁷ Some suggest this high job change rate⁸ is evidence of a poor work ethic among young people. Perhaps more attention needs to be focused upon the absence of a school-to-work infrastructure as opposed to a perceived reluctance to work.

Whatever causes it, this gap between leaving school and obtaining permanent employment makes it more difficult for employers to assess a young person's skills and his/her potential role in their company. Better career education, occupational exposure at all educational levels, and more complete information earlier in the career selection process could help young people avoid years of drifting from job to job and may motivate them to improve their academic performance because they have a much clearer picture of employment possibilities.

Employers tend to avoid hiring people under 25 because they frequently view that age group as irresponsible and more of a risk.⁹ Young adults need encouragement in seeing the world of work as a station to be attained. Teachers, counselors, employers, and parents should be honest with students about the realities of a changing economy, and equip them to be flexible, responsible, self-directed participants in that process.

At just about every meeting I attend, there is at least one person who says it can't be done. And then someone else stands up and tells us how they are doing it. We need to give the floor to those who are doing it. It doesn't just happen. Educators have to give business and industry a reason to come to the table. They often don't know how to do that.

—June Atkinson, Director
Vocational Ed. Programs,
SDPI

Dynamite Idea

Advisory Groups

The nationally-recognized Cornell Youth Apprenticeship Demonstration Project, located in and around the city of Binghamton, N. Y., has two major objectives: to create an enduring program that will enable participants to move from adolescence into adulthood as productive workers, active citizens and caring family members; and to foster the creation of a nationwide system that will achieve these purposes for all young people who do not graduate from four-year colleges.

Forty apprentices enrolled in the 1992-93 school year in three occupational areas: manufacturing and engineering technology, administration and office technology, and health care. Inspired by youth apprenticeship in Germany and other European countries, the program design calls for participants to acquire a high school diploma, an associate's degree, and expert job skills upon completion.

Program recruits are middle-of-the-road students, *i.e.*, young people who probably would not enroll in college without an extra boost but who also do not have severe behavioral or academic problems.

Following the lead of British sociologists who describe workplaces as sociotechnical systems, the Cornell project identified social as well as technical competencies that apprentices should learn while participating in a workplace organization. These social competencies include:

- Systems—understanding the organizational context.
- Rules—adhering to professional norms.
- Teamwork—cooperating with others in a variety of roles.
- Communication—using written and spoken language to give and receive clear messages.
- Responsibility—acting independently when appropriate; taking initiative for work and learning.

To help accomplish these goals, apprentices in each participating school meet in advisory groups led by a teacher or counselor. The students engage in discussion, receive guidance about personal and social behaviors in the workplace, and share problems and achievements at work.



Several first-year apprentices discovered that punctuality and maturity are two characteristics needed to meet work demands. The groups are designed to assist them in identifying and coping with such demands.

The discussions also encourage critical reflection on work experiences. To better understand the world around them, the students are encouraged to think through what they have seen and done. Talking with peers can be particularly beneficial. The advisory group leader stimulates discussion of various topics that will help the apprentices understand how competence is defined, recognized, and acquired in their respective workplaces.

Workplace rules, organizational systems, teamwork, communication skills, responsibilities, excellence, ethical dilemmas, gender and race issues, and effective learning in the workplace are suitable meeting topics for advisory groups. Other activities might include keeping a journal, publishing a newsletter, meeting outside speakers, role-playing, debating issues, videotaping, interviewing, and reading articles.

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There is a growing dualism between the quality of education received by the upper 20% of American children and the rest... About 20% of American jobs are in the symbolic-analysis category — a substantial increase since 1950 — (and) about that percentage of America's young are being well prepared for a lifetime of symbolic-analytic work... (Of the other 80%) at the low end there are American children who get almost no education or a very poor one... (and) for the rest, the quality of education can vary widely — from schools that are creative, effective, and nurturing to many that offer uninspiring standardized instruction where ground is covered instead of ideas.
— Arthur G. Wirth

Labor Markets

In the 1980s, two trends in the youth labor market emerged for males: a decline in earnings for those without a college education and a steady increase in income inequities among workers with the same amount of formal education and workplace experience.¹⁰ Researchers have speculated that if the nature of jobs in the economy has truly changed, employers will screen more closely for skill levels, rewarding those with higher skills.¹¹ US Secretary of Labor Robert Reich believes the nature of employment has changed and that labor classifications need to be reorganized — that workers can increasingly be classified as symbolic analysts (problem-solvers), in-person servers, and routine producers, with some occupations being a blend of classifications.¹² At the same time that employers are screening more closely for skill levels — perhaps because they need symbolic analysts — they are eliminating low-skilled, high-wage, routine producer jobs. Meanwhile, fiercer competition for service sector jobs, where skills are more important than in routine producer jobs, is creating a labor market that increasingly values brains over brawn, skill over stamina.

Whichever way the occupational changes taking place are defined, program designers need to understand that school-to-work transition programs are to some degree market-driven. They must know where they are trying to place young people. Program designers should be aware of the changing nature of the adult labor market, the dilemma of training young people for jobs that have not yet been invented, and the role a jobs program plays in speeding up the school-to-work transition process.¹³

In some regional economies and many rural areas, there are limited career path jobs, and those which *are* available are not as promising as jobs in other regions. Available jobs may be low-skill and low-paying in occupations with low growth rates or in occupations soon to become obsolete.¹⁴ Overcoming these difficulties necessitates that personnel who develop school-to-work transition programs in depressed or rural areas work closely with state and local economic development agencies. They should also investigate creative alternatives such as a "grow your own" computer repair technicians by promoting the use of computers in schools and government agencies and then training a select group of students to repair those computers. Student occupational interests should bear a relationship to regional economic forecasts of supply and demand.

For example, many jobs that were once in demand and, therefore, desirable, are predicted to be lost due to technological advances,

social trends, international trade, and the shift to service jobs. The Bureau of Labor Statistics forecast the following occupations to suffer severe job losses by 2005:

- Typists and data processors due to automation.
- Repairing, installing or running telephone systems as innovations such as voice mail make jobs such as switchboard operators obsolete.
- Baby sitters and private maids which will be replaced by day-care centers and professional housecleaners.
- Textile, lumber, and electronics assembly jobs because of cheap labor overseas.
- Computer operator because office mainframe computers are being quickly replaced by personal computers.

On the regional level, it is imperative to thoroughly analyze job markets and document needs not only for the present, but for the foreseeable future as well. All parties should work together to ensure that they are creating programs which offer students training in occupations that are both viable and that pay a living wage. Technical or community colleges should be included in the development process. A high quality comprehensive program with multiple educational levels may attract new business and industry to a depressed or rural area.

Even when the local economy is healthy, students should be trained in expanding occupations. If changes in the adult labor market are not taken into account, students may be trained in occupations where they will get no return on their skills.¹⁵ Labor market assessments will prevent students from training for occupations that are on the wane. Program designers should not rely solely on the industry itself for information.

Linkage

One of the first problems encountered by program designers is the lack of an institutional infrastructure linking the school house with the workplace. School officials and teachers generally do not have access to key decision makers in the business world and may have difficulty establishing links with employers.¹⁶ They can become vigorously pro-active by establishing contacts with local business organizations and civic groups or hiring a staff person or consultant with established contacts. Individual or organizational intermediaries help exchange information between schools and employers;



Dynamite Idea

Needs Assessment

Located in southwestern Kansas, Finney County has an ethnically diverse population of about 35,000. Major industries are beef packing and agriculture. The rapidly-growing, multi-cultural area faces housing, school, and infrastructure stresses and shortfalls.

During spring, 1994 the proposed Finney County Technical Learning Center in Garden City commissioned the Mid-America Manufacturing Technology Center (MAMTC) to perform a needs assessment. The Technical Education Section of the Kansas State Board of Education provided the funding through a grant.

The assessment was designed to place the learning center's goals within the matrix of the expressed requirements of manufacturers based in Finney County. The survey data is intended to instruct and shape the development of an articulated curriculum in the school districts and the community college in those technological areas.

Three major areas of emphasis in the learning center are metal fabrication, automotive technology, and agricultural technology. The initial needs assessment dealt with metals; methodologies on subsequent needs assessment instruments are expected to be modified because of the different markets involved.

The basic survey instrument covered 21 pages and asks for information concerning workforce and occupational structure, experience and training requirements, reading, math, writing, computer literacy, speaking and listening, reasoning and problem solving, and originality and creativity. Because the learning center is committed to development of SCANS (Secretary's Commission on Achieving Necessary Skills), the instrument included a section which assesses SCANS skills as they are applied to occupational classifications: resources, information, interpersonal, systems, and technology.

In addition to the basic survey, MAMTC developed a short checklist instrument which assesses specific technologies taught in the metals program, as they are currently used, which may increase or decrease in the next three to five years, and for which training or retraining may be required.

Because the size of the manufacturing base in Finney County is more manageable than in metropolitan areas, the needs assessment was conducted in personal interviews on-site at most companies instead of mail/telephone. Interviews lasted for 2 1/2 hours in large companies and 1 1/2 hours for smaller manufacturers. An assessment team of two members conducted the surveys wherever possible.

The learning center suggests that personal interviews should be used to obtain as wide a response as possible. Reducing the sample by limiting the number of SIC codes is recommended for larger metropolitan areas.

The Finney County needs assessment accomplished the following:

- Manufacturers had an opportunity to define, delineate, and describe the nature and skills of the worker they want educational institutions to deliver.
- Educators on the survey team visited Finney County manufacturers, seeing those working environments firsthand.
- Interviews invited questions, concerns, and agendas from the manufacturers, giving them input into the learning center.
- The initial interviews were the first-in-a-series of conversations to be conducted with manufacturers. Keeping abreast of changing technologies and training requirements is vital for the success of the learning center.

For more information, contact:

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Finney County Technical Learning Center
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Holcomb, KS 67851
(316) 276-7611

Dynamite Idea

Targeting Business

In 1991, the school superintendent of Catawba County, interested in establishing a youth apprenticeship program, selected a director of vocational education. The new director, Tom Jones, contacted the local Department of Labor representative and arranged for a pilot site at a local high school. Jones gave an Initial Certification Teacher (ICT) coordinator a list of businesses which employed Initial Certification Program (ICP) adults. After surveying businesses, the coordinator solicited commitments from potential YAP employers.

Lack of interest, scheduling, and other reasons prevented this initial attempt from being successful. A determined Jones made presentations to businesses and groups throughout the area on the merits of and need for a school-to-work transition program. Meanwhile, the Department of Labor representative pursued the idea through contacts with businesses and individuals. Targeting businesses which had adult apprentices, he planted the seed for creating youth apprentice programs. Aware that all the programs would demand some community college course requirements, he brought the community colleges into the process at the outset.

The youth apprenticeship program was soon launched because of this determination. A local furniture company was the first to commit and hired six students. Jones talked with students in cabinet-making classes — collecting “interest cards” from each of them — and built a file of possible youth apprentices. He collected teacher recommendations, reviewed academic records, interviewed the students, and then presented the company with a list of students from which they could choose apprentices. The company interviewed the students and made their final selections.

Fifteen students are now enrolled in the Catawba County Youth Apprenticeship Program, and student achievement and attendance have increased while discipline problems have decreased. A student enters the program through three “windows” during the year. Local principals establish the size of these windows, which range from a few days to three weeks. Any student is eligible as long as he or she is not enrolled in a course during the required time period. Students receive one unit of credit for the school year, one for working during the summer, and possibly another for the following school year. Most students remain in their assigned program, but they have the option and flexibility to change programs. Some companies offer full benefits to students while they are in the program, and their seniority begins when they start the program.

Jones works closely with the guidance counselors, but they are not his sole contacts. Parents must sign a sheet consenting to their child's training agreement, and must attend a company orientation session. The county coordinator keeps in touch with the businesses where students apprentice, and visits the sites each grading period. This close

working environment has helped businesses convey to teachers and students which skills are needed in the work place. Businesses have also reviewed course curricula and provided valuable input. Student grades are mailed both to the students' homes and to their workplace contact. When students graduate, the Department of Labor's representative assumes the role of mentor for the student.

To locate new work sites, Jones has continued to contact businesses and other potential sponsors which use adult apprentices.

According to Jones, any school to work transition program's biggest challenge is in changing the perception that college is a prerequisite to obtaining a good job. The state can help school-to-work transition programs by providing the necessary guidance and resources to help plan and establish good sites. The bulk of the work must be implemented at the local level with schools, businesses, parents, and communities directing, promoting, guiding, and serving the program. The superintendent's support was a key to the success of the Catawba program. Principals are pivotal: when they are supportive implementation is swift and efficient.

Funding has come from existing surplus. If he had grant support, Jones would use it to create public relations materials to promote the program.

Catawba's Youth Apprenticeship Program demonstrates that the targeting of businesses familiar with apprenticeship smoothes the way for launching a program. Another important factor is maintaining the focus on the students through the entire process. All the parties involved must remember the program's purpose: to educate and equip young people with the competencies and skills they need to move into the workplace.

For more information, contact:

Tom Jones
Vocational Education Supervisor
10 E. 25th St.
Newton, NC 28658
(704) 464-8333
FAX: 464-0925

According to a recent survey by the National Career Development Association:

Among adults:

- 60% say high schools are not doing enough to help students develop job skills
- 51% think schools in their communities don't do enough to help students choose careers
- 57% say high schools don't devote enough attention to helping students learn how to use occupational information
- 54% think schools don't do enough to help students identify jobs that are open in their communities.

Among high school dropouts and high school graduates with no college education (ages 18-25):

- 83% believed they would need more formal training or education in order to increase their earning power.

— Work America,
National Alliance of
Business

mediate the competing needs of all the participants — particularly when there are a large number of parties involved; and help create linkage between the school and the workplace.¹⁷ Such a neutral third party logically handles program management responsibilities and accountability. The outside educational consultant who coordinates the Middle Georgia Aerospace Youth Apprenticeship Program, for example, says that managing the strengths and weaknesses of the nine organizations involved and mediating when differences arise are major components of her job.

Intermediaries might also help students and recent high school graduates move into the workforce, serving as substitutes for the social and familial networks that once furnished young people with information about jobs and skills. Information and guidance to students on the skills and competencies needed for existing occupations could be provided as well as current job openings, and data on job search outcomes.¹⁸

Students have traditionally found their own after-school jobs which can have limited benefit and often compromise a worker's in-school preference. Some time spent at work increases knowledge and skills, but too much time spent away detracts from school. Students have less time for homework; Their grades and test scores drop; They are more likely to drop out; and They express fewer positive attitudes and fewer aspirations regarding school. If a student's after-school job is related to his course work in some substantial way, his school performance may improve because school and work reinforce each other.¹⁹

Even without long-term gains, students will continue to seek after-school work, therefore, a stronger relationship between schools and employers would clearly benefit *all* students, not just participants in school-to-work transition programs. Substantial efforts should be made to establish and sustain a strong connection between school and work. Those who support school-to-work transition programs should approach program development not just as a way to help students find work, but as the beginning of a process that has the potential to establish much needed commercial and institutional relationships between schools and employers.²⁰ All of the exemplary school-to-work programs cited in this report have created linkage between school and work, and many are building an infrastructure through developing additional programs.

Recognition/Credentials/Standards

Students who successfully complete a school-to-work transition program, especially a youth apprenticeship one, need to earn some sort of recognition of their capability such as a certificate or creden-



tial. Standards for offering some sort of credentials must be put in place. Outcomes from current co-op programs suggest why this is necessary:

[Ideally,] co-op teachers place students in jobs directly related to what is taught in the classroom ...[but] co-op programs have not consistently been found to give students advantages in the labor market. [Males in co-op programs] evidenced a more positive perception of their senior year jobs and the relationship between school and work . . . [but less than two years later] they did not show higher rates of labor force participation, employment, or wages . . . [Co-ops] may not have a labor market payoff because *knowledge and skills obtained from one employer through co-op programs may not be recognized by another employer.*²¹

This may be in part because some employers do not consider grades or credentials from current vocational programs as indicators of ability.²² Fortunately, not all co-op programs meet such resistance. In the Business Education Co-op at Hardaway High School in Columbus, Georgia, extremely active business participation resulted in the program's curriculum meeting industry certification standards, and the knowledge and skills a student learns from one employer are recognized and accepted by other employers in the industry. However, this type of recognition is currently the exception rather than the rule.

Certification, if instituted correctly, can give students a portable credential that is recognized throughout the United States. It can also reassure employers that a young person possesses the maturity, knowledge, and skills necessary for employment since certification is based on outcomes and may reliably indicate true knowledge and abilities rather than one's capacity to simply "do the time."²³ Widely accepted certification, accompanied by appropriately designed standards, can also protect students from unscrupulous trade schools and fly-by-night training programs. Standards ensure that quality requirements are met. One option is to set standards where the breadth of skills taught are sufficiently universal to apply to a general field or a scope of occupations. The process of creating and setting standards can also help educators and employers communicate and provide a forum to address curriculum and workplace issues. In other words, the *process* of creating standards can lead to the establishing of new relationships between schools and businesses and can significantly contribute to building an infrastructure which links the two. Such interaction has the potential to change other aspects of schools and businesses, such as education reform and private sector productivity.²⁴

Standards must not, however, perpetuate the study of outmoded production practices or concentrate on skill- or competency-building for jobs that may soon be obsolete; nor should employers be allowed to dictate school reform based on their particular needs.²⁵ Businesses must be realistic and clearly understand their motivation for involvement. School-to-work transition programs cannot be an exclusive training and recruitment vehicle for a specific business and still offer students an adequate overall learning experience.²⁶ Employers must articulate clearly and consistently what knowledge and skills they require and work with program designers to teach not only specific job tasks, but also general concepts and theory.

In a large, decentralized labor market, such as in the United States, standard-setting will most likely happen at the local level by several industry groups. This could lead to a confusing array of standards that vary from place to place. To avoid such confusion, standards could be organized around a cluster of occupations and newly created national, industry, and community boards could ensure uniformity.²⁷ It is important to remember that without the cooperation of the appropriate state departments or agencies, the standard-setting process can be obstructed and achieve limited results. Approaches to the setting of standards should be realistic: students will benefit from certification programs that are not exclusionary, that do not create occupational barriers, and that are widely recognized. However, program designers may be limited in their ability to incorporate such broad consistency into their program.

Program Evaluation

"What are we trying to accomplish?" Program designers must be clear from the outset about the primary objective of their school-to-work transition program. Given the relative absence of reliable and valid data on school-to-work transition program outcomes, a great deal of uncertainty is associated with their large-scale expansion. During the planning phase, program designers should research the literature on school-to-work transition programs as well as "best practices" studies from the field.²⁸ Many existing school-to-work transition programs do not collect data, and so do not or cannot share the lessons they have learned. It is then difficult for program designers to include elements associated with positive outcomes (*e.g., impact on wages and labor force participation*) or to draw on the experiences of others when attempting to plan and implement comprehensive school-to-work transition strategies.²⁹

Once the program is up and running, developers should dedicate resources to documenting the program, gathering information and

data, and evaluating outcomes. In this way, educators, businesses, and policy-makers can best learn how to expand school-to-work transition programs. Ideally, program proposals should include a program evaluation design. A set of exams or assessments for base-line data should also be in place to determine students' general academic and educational levels before they enter a specific technical program or post-secondary institution.³⁰ Evaluators will also want to see whether a program was implemented in the way it was envisioned and may assess costs in relation to effectiveness. The design should also incorporate ongoing reassessments of program needs; otherwise, changes in labor market demands, proficiencies and skills, and basic program components may render ineffective a program that shows great initial promise.

Marketing

Helping students who are not going to college find stable, viable career opportunities requires a shift in the public perception of responsibility. Organizers must tailor their pitches to "sell" school-to-work transition programs — or even the concept of such programs — to various audiences. In other words, they must recognize that the mind sets, needs, and objectives of each group differ. Additionally, program supporters should follow proven sales techniques:

- Know the details of the program.
- Stress common ground and shared experiences.
- Find aspects of the program that specifically interest the other party.
- Stress program benefits over features.
- Listen to and acknowledge concerns.
- Address objections with information that puts people's minds at ease.³¹ For example, educators may express concern that academics are being abandoned: they need to *see* how this is not the case.

Parents who distrust this new approach to occupational training may prove to be another obstacle. No doubt some will see school-to-work transition programs as simply a form of vocational education and continue to believe the *only* workplace preparation for their child is college. Parental concerns can be overcome by school and community-wide education efforts. Evening informational meetings can explain a program's merits; many of the programs

Controversy has always swirled around vocational education. Lauded by the unsophisticated, panned by the professionals, and shunned by the upwardly mobile, occupational education has been the Lawrence Welk of public education — tolerated and occasionally patronized by the Establishment, but never really accepted.

— Kenneth Gray, Phi Delta Kappan

described in this report hold recruitment or orientation meetings for parents. In some programs, parents are informed about the project as part of the student recruitment process. Program supporters must be able to show parents how the program does not "track" students, and they should be realistic and honest about how widely accepted the program's credentials or recognition may prove. If program development efforts have been strictly local and no one from the state's university system or the appropriate state government agency has been consulted, supporters cannot reassure parents that the program will not impede their children's acceptance to a college or university.

All too often, the predominant perception is that any career path other than college prep is inferior. If that common viewpoint is overlooked, students may resist enrolling even in new, innovative programs. Traditional university entrance requirements may confirm this perception. Colleges who do not accept credits for new workplace-oriented academic courses exacerbate the problem. Defining what is "acceptable" university course work is further compounded by the national shift in vocational education paradigms.

Promotional campaigns must battle a "lesser than" mentality and openly sell the benefits of career paths other than college to get students to think more highly of school-to-work transition programs and vocational education. Not all Americans can or will receive a four-year college degree, and encouraging the notion that a traditional college education is the "superior" occupational path demeans those who do not attend four-year institutions. Guidance counselors should begin to ask students what type of work they want to do, and in what type of environment. If questions about a young person's future are posed in that manner, options are left open. Automatically asking students where they want to attend college without exploring other options indicates a lack of vision and can contribute to program failure. It is important to consider that a large percentage of the jobs created in the next ten years will not require a four-year degree, and currently, the number of graduates from four-year institutions are finding it harder and harder to find a job after graduation. This has forced many to pursue training at technical schools.

Businesses and industries should consider recruiting students for workplace programs, or for similar programs in which they are involved, in much the same way that colleges recruit for both academics and sports. Doing so could help combat the linear "superior path/inferior path" view of occupational readiness and might further the acceptance of a more dichotomous or "many

paths" approach. Businesses should assess how they use their training budgets and consider what that budget says about their priorities. Does it and should it reflect the current national norm that a full *two-thirds* of US businesses' training moneys go toward continuing education and training for employees who are college graduates?¹² Continuing this trend will only perpetuate a defeatist mindset and could derail school-to-work transition programs.

Large-scale program expansion often stalls because developers know so little about effectively attracting employers and gaining widespread private sector support. Creating an ongoing organization of employers and educators which can address school reform and occupational training would put the issue of youth job placement in a broad, community-based context and would avoid the difficulties and time it takes to approach employers one at a time.

When creating programs, developers could include elements that draw upon past participation from the private sector, even if that involvement was on a smaller scale. They might actively pursue targeted industries with a significant shortage of skilled and trained workers or local industries planning to expand. If potential employers do not face a labor shortage or are not planning to expand, one could point out the benefits of hiring the "cream of the crop" and of attracting better qualified employees. Employers who are intrigued by the notion of transforming the youth labor market into a viable learning experience might respond to appeals for involvement based on civic duty or community responsibility.

Program designers and supporters must understand the needs of all of the participants: students, businesses and industries, parents, and educators. Frequently, school personnel understand the needs of the business participants least. Employers may face several challenges when participating in an apprenticeship program. To respond to the market and stay profitable, they must remain flexible; they may also be facing economic downturns. Given these demands, employers may become frustrated by the school bureaucracy's comparative inflexibility and slow-paced decision-making. They may also be reluctant to become involved if they cannot trust that school and program personnel fully understand their concerns and problems.

Employers incur extra management costs for training and supervising young people in school-to-work transition programs. This is particularly true of such programs as youth apprenticeships, which involve developing sophisticated training plans and working with school personnel on curriculum changes. At the local level, a wage subsidy to employers could be considered, and at the state or federal level, tax incentives might serve the same function. Explor-

We need to start asking our students and children what they want to do, verses where they want to go

— Ms. Roxy Poovey,
Director of Vocational Ed.,
Catawba County, NC

The apprentices are not a direct labor source yet because they have not been at the plant long enough for us to reap any significant benefits, but our first apprentice has begun working on special projects and a little bit of benefit to the company is beginning to trickle in... Our first apprentice, now in his third year of the program, was our primary resource for developing a list of area-specific training objectives for incoming apprentices.

— Danny Fahey, Ryobi
Motor Products



Program Profile

Pickens County, SC

The BJ Skelton Career Center houses one of South Carolina's first youth apprenticeship programs. Located in Easley, the occupational education center serves the school district and also offers vocational education and co-op educational programs.

A few years ago, realizing that local businesses needed better-skilled computer electronics workers, a consortium of business leaders and educators formed the Partnership for Academic and Career Education (PACE). Its members — seven school districts (including Pickens), Tri-County Technical College, and a number of local businesses — were intent on establishing tech prep programs for the area. As they began to develop their plan, they discovered that Jobs for the Future was offering grant money for developing youth apprenticeship programs. Since it already had a firm financial commitment from the school district to support the youth apprenticeship program that had been developed, PACE was prepared to move ahead—with or without the grant money. But PACE *did* win a JFF grant, one of only ten sites nationwide to do so, and received a total of \$20,000 to use over three years.

In conjunction with PACE, the BJ Skelton Career Center established its first youth apprenticeship program in Computer Electronics during the 1991-1992 school year. Open to all vocational students in Pickens County, the YAP is designed to graduate mid-level technologists. The four-year program begins in the 11th grade. In the fall of their senior years, students are placed with an employer to learn workplace competencies. Students can work a maximum of 20 hours a week (always in the afternoons), are generally paid above the minimum wage (though typically not higher than \$6.00 per hour the first year), and must provide their own transportation to the work site. Not every course at the Center is part of a youth apprenticeship program yet.

Students in the third and fourth years of the YAP attend the local community colleges — Tri-County Technical College, Greenville Technical College, and Spartanburg Technical College. The developers of the Center's Youth Apprenticeship programs have striven for a seamless transition to college through articulation and advanced credit. All students at the Center take all their academic courses at four feeder high schools and take most of their vocational education courses at the Center. Business education courses are divided between home high schools and the Center.

The Center has an eight-period schedule composed of four 90-minute periods one day and four 90-minute periods the next day. This allows instructors to offer introductory/exploratory courses to 10th-graders, and to accommodate 11th-graders in the mornings, and 12th-graders in the afternoons. Students who are not majoring in vocational education are welcome to take supplemental courses at the Center as well. The Pickens County high school curriculum is implemented through a two-tier College Prep/Tech Prep system.

The Center's first apprentice was placed in a computer electronics position in the spring of 1992 at Ryobi Motor Products, where small power tools are manufactured under the Ryobi and Craftsman name. By the 1993-1994 school year, 23 students were apprenticing in computer electronics, business management, industrial electricity, and auto mechanics. Nineteen students are currently in the secondary phase of the program and four are in the post-secondary phase at Tri-County Technical College.

The YAP is competitive, and students consider acceptance to be quite prestigious. As part of the selection process, students take a battery of eight CAPS tests, and their scores are compared. Other factors considered include teacher recommendations, good attendance, and an overall C average — with B's required in any courses pertaining to students' selected areas of specialization. Twenty-nine students applied for the 1993-94 school year, and 20 were selected. The remaining nine students were offered priority standing in the Center's Co-op program which focuses more on career exploration than career training.

To acquaint sophomores and their parents with the program, home high schools sponsor presentations. When their children join the program, parents attend a group orientation. Students accepted into the program take a great deal of pride in their accomplishment. For example, one at-risk student who was accepted into the program — despite poor attendance in school — has exhibited a significant improvement in attendance.

To gain admittance into the workplace component, seniors must fill out a written application for the job and then interview with the company. Before a student starts to work, all involved parties — the Center, the student, the business, the community college, and the parents — must sign a contract.

Academic and vocational education teachers tour workplaces and collaborate, developing competencies and relating the course context to the work context. They share this information through the PACE newsletter.

All YAP students have a workplace mentor, assigned by the work site employer. The Center conducts mentor workshops and distributes a handbook for mentors. The youth apprenticeship coordinator visits the work sites regularly and is available to both students and employers. While there is no formal method for program evaluation, the Center receives valuable feedback from its business and industry partners through mentorship meetings, student evaluations, and telephone calls.

For more information, contact:

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Youth Apprenticeship Coordinator
B. J. Skelton Career Center
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Easley, SC 29640
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In response to a survey question in the November issue of The American School Board Journal regarding whether they would consider establishing a German-style apprenticeship program in their school district, 53% of the readers who responded said 'yes.' Specifically, they should give approval to some kind of apprenticeship system that would expose all students, college-bound or not, to the responsibilities of the working world and the skills needed to survive there. However, one third believed that such programs were too costly, and would prefer to use the money to improve existing programs.

— The American School Board Journal

ing ways to help employers defray some of these costs might be just the sign of good faith a business needs to see to encourage their involvement in the program.

Promotional efforts within a system's schools should not be limited to secondary schools. Elementary school children need to know about the world of work — the role it plays in the lives of those around them, the role it will play in their lives, possible careers, and the school-to-work transition programs available to them. Their knowledge will prove crucial to the sustained success and viability of school-to-work programs. Career days allow the youth apprenticeship coordinator an opportunity to talk with elementary school students. A number of career exploration programs could be offered to both elementary and middle school students. Combining early career education with regularly televised public service spots on a variety of school-to-work transition options may, in the long run, change entrenched social attitudes, at least among the younger generation.

Public Choices & Public Agents

Two schools of thought emerge about how to classify school-to-work transition programs. One approach is to loosely define school-to-work transition programs to include both new and existing programs. This builds on programs currently in place and allows for a great deal of local flexibility. The other approach is to clearly define what core components are necessary in a school-to-work transition model and only grant full-fledged status to programs with those components. Starting the process by clearly defining policy objectives may be the best way for policy makers to determine the more appropriate approach. Policy-makers, be they school board members, legislators, or administrators, may have to decide which school of thought best matches their policy objectives.

State labor laws can limit on-site student participation. This is certainly the case in Georgia, Alabama, and Mississippi, where students are not able to work in manufacturing operations at plants until they are 18 years old. These states' laws have severely limited the ability of local school systems to implement full-fledged youth apprenticeship programs that include a work component at the secondary school level. To their credit, program designers in all three states have been very creative in their attempts to offer a workplace component in their programs. Teams of students for example, assemble — for pay — components at an assembly line on school property.

Workers' compensation rates cause problems in some states: employers willing to extend workplace opportunities to students may



be penalized with higher insurance costs. State regulations may inhibit the flexibility of local school systems by mandating the number of hours per week course work must be taught to each student. School scheduling can often be too rigid to accommodate employers. Since institutional rules and government regulations can thwart a program's success, school systems and state and local governments need to closely examine rules and regulations in all departments that might be stumbling blocks for school-to-work initiatives and consider how to either change a regulation or allow for exceptions.

State funding, including funding for staff dedicated to school-to-work transition initiatives, may be uncertain and constrain both state and local initiatives. Some federal grant programs have provisions limiting the use of existing grant moneys. Initiatives that attempt to include all students, not just targeted populations, may be unable to access this type of federal grant money.³³ Government agencies need to explore ways to make funding more secure and readily available to school-to-work transition programs that can demonstrate solid planning and consider using financial incentives to promote creativity. Grantors should assess whether a re-examination of targeting provisions is needed; new school-to-work initiatives may serve a targeted population just as well and offer greater variety and opportunity.

Those in power rarely relinquish it voluntarily, and this must be kept in mind when attempting to solicit support for apprenticeship transition programs. Program collaborators must share power and form balanced partnerships in ways not typically found in existing political and economic structures. If we are ever to collaborate effectively, we as a nation must change how we think. Policy-makers perhaps should take the lead in making this shift by working collaboratively.

Section
5

**School-to-Work
Transition Program
Resources**

School-to-Work Transition Program Resources

National Organizations

Academy for Educational Development
100 Fifth Avenue
New York, NY 10011
(212) 243-1110

Agency for Instructional Technology
Box A
Bloomington, IN 47402
(800) 457-4509

American Association for Career Education
2900 Amby Place
Hermosa Beach, CA 90254-2216
(213) 376-7378

American Association for Vocational
Instructional Methods
745 Gaines School Road
Athens, GA 30605
(800) 228-4689

American Association of Community and
Junior Colleges
One Dupont Circle, NW
Suite 410
Washington, DC 20036
(202) 728-0200

American Federation of Teachers
555 New Jersey Avenue, NW
Washington, DC 20001
(202) 879-4458

American Society for Training and
Development
Box 1443
1640 King Street
Alexandria, VA 22313
(703) 683-8100

American Vocational Association
1410 King Street
Alexandria, VA 22314
(703) 683-3111

American Youth Policy Forum / William T.
Grant Foundation Commission on Work,
Family, and Citizenship
1001 Connecticut Avenue, NW
Suite 301
Washington, DC 20036-5541
(202) 775-9731

Association for Supervision and Curriculum
Development
1250 N. Pitt Street
Alexandria, VA 22314
(703) 549-9110

Brookings Institute
1775 Massachusetts Avenue, NW
Washington, DC 20036
(202) 797-6000

Business Professionals of America
5454 Cleveland Avenue
Columbus, OH 43231

The Business Roundtable
1615 L Street, NW
Suite 1350 Washington, DC 20036
(202) 872-1260

Center for Occupational Research and
Development (CORD)
601-C Lake Air Drive
Waco, TX 76710
(817) 772-8756

Center for Workforce Preparation and Quality
Education
U.S. Chamber of Commerce
1615 H Street, NW
Washington, DC 20062
(202) 463-5525

Center on Education & Training for
Employment
Ohio State University
1900 Kenny Road
Columbus, OH 43210
(800) 848-4815

Cities in Schools, Inc. (CIS)
401 Wythe Street
Suite 200
Alexandria, VA 22314-1963
(703) 519-8999

Coalition of Essential Schools
Brown University
Box 1938
Providence, RI 02912
(401) 863-3384

Committee for Economic Development
477 Madison Avenue
New York, NY 10022
(212) 688-2063

Cooperative Education Association, Inc.
11710 Beltsville Drive
Suite 520
Beltsville, MD 20705
(301) 572-2329

Cornell Youth and Work Program
College of Human Ecology
Human Development and Family Studies
G94 Martha Van Rensselaer
Ithaca, NY 14853-4401
(607) 255-8394

Council for Educational Development and
Research
1201 - 16th Street, NW
Washington, DC 20036
(202) 223-1593

Council for Aid to Education
51 Madison Avenue
Suite 2200
New York, NY 10010
(212) 689-2400

Council of Chief State School Officers
(CCSSO)
One Massachusetts Avenue, NW
Suite 700
Washington, DC 20001
(202) 408-5505

Education Commission of the States
707 - 17th Street
Suite 2700
Denver, CO 80202-3427
(303) 299-3600

Education Writers Association
1001 Connecticut Avenue, NW
Washington, DC 20036
(202) 429-9680

Educational Testing Service
WORKLINK Program
1825 Eye Street, NW
Suite 475
Washington, DC 20006
(202) 659-0616

Future Business Leaders of America - Phi Beta
Lambda, Inc.
1912 Association Drive
Reston, VA 22091
(703) 860-3334

Hudson Institute
P.O. Box 26-919
Indianapolis, IN 46226
(317) 545-1000

I Have A Dream Foundation
31 West 34th Street
New York, NY 10001
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Periodicals, Journals, and Newsletters

"The American School-to-Career Movement: A Background Paper for Policymakers and Foundation Officers"

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"Apprenticeship as a Transition to Adulthood in West Germany"

by: Stephen F. Hamilton
American Journal of Education, v95, n2, p314-45, Feb. 1987
Available from the University Microfilm Index

"Benchmarks: Student Portfolio, A Guide for Assessing Employability Skills"

Michigan Department of Education
Michigan Educational Assessment Program
Box 30008
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"Can Youth Apprenticeship Thrive in the United States?"

by: Thomas Bailey
Educational Researcher, v22, n3, p4-10, April 1993
Available from the University Microfilm Index

"The German Apprenticeship System. Everybody's Talking About It, But Is It the Right Model for America?"

by: Rick L. Perry
Vocational Education Journal, v66, n5, p30-31, 46, May 1991
Available from the University Microfilm Index

"Home-Grown Lessons: Innovative Programs Linking Work and High School"

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"Prospects for an American-Style Youth Apprenticeship System"
by: Stephen F. Hamilton
Educational Researcher, v22, n3, p11-16, April 1993
Available from the University Microfilm Index

• "School-to-Work: A Larger Vision"
American Youth Policy Forum
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School-to-Work "What Does Research Say About It"
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Training for Work: "What the U.S. Can Learn from Europe"
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"Union Perspectives on New Work-Based Youth Apprenticeship Initiatives"
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1410 King Street
Alexandria, VA 22314
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Vocational Training News
Capitol Publications, Inc.
P.O. Box 1453
Alexandria, VA 22313-2053
(800) 327-7203

"Why America Should Develop a Youth Apprenticeship System"
by: Robert I. Lerman and Hillard Pouncy
Progressive Policy Institute
Washington, D.C.
March 1990, 18p.

Work America
National Alliance of Business
Publications Sales Office
P.O. Box 501
Annapolis, MD 20701
(800) 787-7788

Workforce Development Strategies
KnowledgeWork Solutions, Inc.
1513 N. Ridge Avenue
Arlington Heights, IL 60004-3776
(708) 394-3092

"Youth Apprenticeship in America: Guidelines for Building an Effective System"
American Youth Policy Forum
1001 Connecticut Avenue, NW
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"Youth Apprenticeship: Lessons from the U.S. Experience"
by: Thomas Bailey and Donna Merritt
National Center for Research in Vocational Education
Berkeley, CA
Centerfocus, n1, July 1993, 5p.

Documents on Models

"Alabama's Student Apprenticeship Linkage Program in Vocational Education"

Technology Plus of Alabama

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"Blueprint 2000"

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"Education/Training Partnership: Youth Apprenticeship"

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"Florida Tech Prep Program Directory"

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Bureau of Program Planning and Services

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The Richmond County Youth Apprenticeship Program

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"School-to-Work Connections: Formulas for Success"

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"School-to-Work Handbook"

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"School-to-Work Transition Programs"

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"South Carolina School Based Enterprise"

Beaufort County School District
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"Tech Prep: What? Why? How?"

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"What Work Requires of Schools: A SCANS Report for America 2000" (condensed version)

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Section
6

Endnotes

Endnotes

Youth Apprenticeship: An Overview Endnotes

1. "Where Will the Jobs Comes From?" *Fortune*, 19 October, 1992. p. 60.
2. Kristina J. Shelley, U.S. Department of Labor, Bureau of Labor Statistics, Office of Employment Projections. "The Future of Jobs for College Graduates," *Monthly Labor Review*, July 1992, p. 15.
3. Paul Kennedy, *Preparing for the Twenty-First Century*, (New York: Random House, 1993), p. 310.
4. U.S. Department of Labor, Employment and Training Administration, *Apprenticeship Past and Present* (Washington, DC, 1991), p. 9-10.
5. Arthur G. Wirth, *Education and Work for the Year 2000: Choices We Face* (San Francisco: Jossey-Bass Publishers, 1992), pp. 162-165.
6. U.S. Department of Labor, *Apprenticeship Past and Present*, pp. 14-16.
7. U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, *National Apprenticeship Program* (Washington, DC: 1987), pp. 1-9.
8. *Ibid*, p. 2.
9. *Apprenticeship Training: Administration, Use, and Equal Opportunity*, Report to Congressional Requesters, Human Resources Division, United States General Accounting Office, March 1992, p. 3.
10. *Ibid*, p. 4.
11. Rick L. Perry, "The German Apprenticeship System: Everybody's Talking About It, But Is It the Right Model for America?", *Vocational Education Journal*, May 1991, p. 31.

Types of School-to-Work Programs Endnotes

1. Paul Osterman and Maria Iannozzi, "Youth Apprenticeships and School-to-Work Transition: Current Knowledge and Legislative Strategy," EQW Working Papers, 1993, p. 16.
2. Ibid.
3. North Carolina Department of Public Instruction, Vocational & Technical Education Services. School-to-Work Transition. (Raleigh, NC: 1993).
4. North Carolina Department of Public Instruction. 8. Osterman and Iannozzi, p. 18.
5. Ibid.
6. Ibid.
7. Ibid, p. 17.
8. Ibid, p. 19.
9. Ibid, pp. 19-20.

Key Components in School-to-Work Programs Endnotes

1. Kirk Winters and Brett Scoll, U. S. Office of Policy and Planning, Building Bridges from School to Work: A Background Paper for the Goals 2000: Educate America Satellite Town Meeting, 13 April 1993, p. 5.
2. Stephen Denby, "What Students Want: American Business and Labor Need to Change Their View of Apprenticeship," Vocational Education Journal, October 1991, pp. 24-25, 68.
3. Paul Osterman and Maria Iannozzi, "Youth Apprenticeships and School-to-Work Transition: Current Knowledge and Legislative Strategy," EQW Working Papers, 1993, p. 8.

Critical Issues Endnotes

1. Paul Osterman and Maria Iannozzi, "Youth Apprenticeships and School-to-Work Transition: Current Knowledge and Legislative Strategy," EQW Working Papers, 1993, p. 14.
2. Ibid.
3. Ibid.

4. What Work Requires of Schools: A SCANS report for America 2000, The Secretary's Commission on Achieving Necessary Skills, United States Department of Labor, June 1991, p. 1.
5. Transition From School to Work: H.R. 2884 Addresses Components of Comprehensive Strategy, Statement of Linda G. Morra, Director, Education and Employment Issues, Human Resources Division, United States General Accounting Office, in her testimony before the Committee on Education and Labor, U. S. House of Representatives, 29 September 1993, p. 8.
6. Osterman and Iannozzi, p. 15.
7. Ibid, p. 14.
8. Ibid, pp. 4, 15.
9. Ibid, p. 4.
10. Ibid, p. 11-12.
11. Ibid, p. 5.
12. Robert B. Reich, *The Work of Nations: Preparing Ourselves for 21st Century Capitalism* (New York: Vintage Books, 1992), pp. 173-182.
13. Osterman and Iannozzi, p. 6.
14. Ibid.
15. Ibid, p. 6.
16. U. S. General Accounting Office, 1993, p. 7. 18. Osterman and Iannozzi, p. 15.
17. Ibid.
18. Ibid, p. 13.
19. Ibid, p. 16.
20. Ibid, p. 14.
21. Ibid, p. 15.
22. Ibid, p. 7.
23. Ibid, pp. 9-10.

24. Ibid, p. 15.
25. Ibid, p. 8.
26. Ibid, p. 10.
27. Ibid.
28. U. S. General Accounting Office, 1993, p. 8.
29. Osterman and Iannozzi, p. 16.
30. Interview with Joseph Mancuso of The Center for Entrepreneurial Management, "How to Sell Anything: The Six Key Steps," Bottom Line/Personal, 1 April 1994, pp. 11-12.
31. Education Writers Association, Training for Work: What the U.S. Can Learn From Europe (Washington, DC: EWA, 1990) p. 13.
32. Osterman and Iannozzi, p. 10.
33. U. S. General Accounting Office, 1993, pp. 7-8.

Section
7

Bibliography

Bibliography

Adams, Don and Paul Snodgrass, eds. *Profiles in Action: Bridge from School-to-Work*. Ellenton, FL: InfoMedia, Inc. and Home Savings of America, 1993.

"Approaches to Integration at Community Colleges and Technical Institutes." *Workforce Development Strategies*, June 1994.

Clark, Susan. "No Way But Up." *The Executive Educator*, December 1992.

Denby, Stephen. "What Students Want: American Business and Labor Need to Change Their View of Apprenticeship." *Vocational Education Journal*, October 1991.

DeWitt, John, et al. "What Will New Governance Mean for the Federal Government?" *Public Administration Review*, March/April 1994.

Education Writers Association. *Training for Work: What the U.S. Can Learn From Europe*. Washington, DC: EWA, 1990.

Employment Security Commission of North Carolina, Labor Market - OES Unit. *Occupational Employment in Manufacturing, Hospitals, and Agricultural Services Industries in North Carolina*. Raleigh, NC: ESC, 1992.

Gray, Kenneth. "Vocational Education in High School: A Modern Phoenix." *Phi Delta Kappan*, 1991.

Hamilton, Stephen F. "Apprenticeship as a Transition to Adulthood in West Germany." *American Journal of Education*, February 1987.

"Health Care Employment Roars: A Look at What's Driving the Engine." *Workforce Development Strategies*, July 1994.

Henkoff, Ronald. "Where Will the Jobs Come From?" *Fortune*, 19 October 1992.

Hofheinz, Paul. "When Will Germany Come Back?" *Fortune*, 4 April 1994.

"How to Sell Anything: The Six Key Steps" Interview with Joseph Mancuso of The Center for Entrepreneurial Management. *Bottom Line/Personal*, 1 April 1994.

"If Not Youth Apprenticeships, What? If Not You, Who?" Advertisement by the National Alliance of Business. *Fortune*, 6 September 1993.

Ivey, Robert and Edward Pauly. "Learning Opportunities from Two MDRC School-to-Work Transition Projects." NGA Labor Notes, 8 September 1993.

Jobs for the Future. Creating a Youth Apprenticeship Program: Step by Step. Cambridge, MA: JFF, 1993.

_____. A Feasibility Study of Youth Apprenticeship in Arkansas. Somerville, MA: JFF, April 1991.*n*

_____. From High School to High-Skilled Health Careers: New Models of Work-and-Learning in Health Care. Cambridge, MA: JFF, December 1992.

Kazis, Richard. Improving the Transition from School to Work in the United States. Washington, DC: American Youth Policy Forum, Competitiveness Policy Council, Jobs for the Future, 1993.

Kennedy, Paul. Preparing for the Twenty-First Century. New York: Random House, 1993.

Lively, Kit. "Many States Welcome Clinton's Job-Training Plan, but Some Say it May Not Lead to Significant Change." The Chronicle of Higher Education, 8 September 1993.

Marner, Eugene. "Who's the Brightest of Them All?" Challenge to America, July 1993.

Marshall, Kyle. "Siemens Banking on Worker Training." The News & Observer (Raleigh, NC), 26 October 1993.

Mihalevich, J. Richard. "Tech Prep: Formidable Reform Movement." The Mecklenburger Group: Inventing Tomorrow's Schools, July / August 1993.

Miller, Edward. "School-to-Work: The Critical Passage." Partnerships in Education Journal, December 1993.

Morra, Linda G. U.S. General Accounting Office, Education and Employment Issues, Human Resources Division. Transition From School to Work: H.R. 2884 Addresses Components of Comprehensive Strategy. Testimony before the Committee on Education and Labor, U.S. House of Representatives, 29 September 1993.

"Neglect of Vocational Ed." Editorial. The News & Observer (Raleigh, NC), 14 December 1993.

Nielsen, Dr. Barbara S., et al. A Model for Implementing School-Connected Apprenticeships in the School Districts of South Carolina in Conjunction with Other School-to-Work Programs. Columbia, SC: Department of Education, June 1992.

Noble, Katherine. "High School Students Acquire Job Skills, Promise of Employment. Philanthropy Journal of North Carolina, January 1994.

North Carolina Department of Public Instruction, Vocational & Technical Education Services.
School-to-Work Transition Programs: A Status Report. Raleigh, NC: NCDPI, July 1993.

———. Youth Apprenticeships: What? Why? How? Raleigh, NC: NCDPI, July 1993.

North Carolina Department of Public Instruction, Vocational & Technical Education Services and
North Carolina Department of Community Colleges. Tech Prep: What? Why? How?. Raleigh, NC: NCDPI, July 1993.*n*

North Carolina Department of Public Instruction, Vocational & Technical Education Services and
North Carolina Department of Labor. High School Apprenticeship Handbook. Raleigh, NC: NCDPI, August 1991.

North Carolina State Advisory Council on Vocational and Applied Technology Education.
School-to-Work Handbook. Raleigh, NC: NC Business Committee for Education, 1993.

Nothdurft, William E. and Jobs For the Future. Youth Apprenticeship American Style: A Strategy
for Expanding School and Career Opportunities, Report of a Conference.
Washington, DC: Somerville, MA, 1990.

"Occupational Employment." Occupational Outlook Quarterly, Fall 1989.

Olson, Lynn. "On the Career Track." Education Week, 23 February 1994.

———. "President's School-to-Work Proposal Extends Beyond Apprenticeship Focus." Education Week, 8 September 1993.

O'Reilly, Brian. "The Job Drought." Fortune, 24 August 1992.

Osterman, Paul, and Maria Iannozzi. Youth Apprenticeships and School-to-Work Transition:
Current Knowledge and Legislative Strategy. Pennsylvania: National Center on the Educational Quality of the Workforce, EQW Working Papers, 1993.

"Overview." Academy of Finance Newsletter. Charlotte, NC: Charlotte-Mecklenburg Schools,
North Mecklenburg High School, September 1993.

Peltzman, Sam. "Political Factors in Public School Decline." The American Enterprise, July/
August 1993.

Perry, Rick L. "The German Apprenticeship System: Everybody's Talking About It, but Is It the
Right Model for America?" Vocational Education Journal, May 1991.

Rapoport, Carla. "Europe Tackles Its Job Crisis." Fortune, 4 October 1993.

Raspberry, William. "Blue-Collar Workers' Legitimate Suspicions." Washington Post Writers
Group, The News & Observer (Raleigh, NC), 19 November 1993.

- _____. "How Families Failed, and How to Fix Them." Washington Post Writers Group, The News & Observer (Raleigh, NC), 28 October 1993.
- _____. "Moving Youth from School to Workplace." Washington Post Writers Group, The News & Observer (Raleigh, NC), 13 April 1990.
- "Recruiting Employers." Review of Learning Through Work by Richard Kazis, et al. Student Apprenticeship News, April 1994.
- Reich, Robert. The Work of Nations: Preparing Ourselves for the 21st Century. New York: Vintage Books, 1992.*n*
- Roberts, Ron. The Transition from High School to the Workplace. Louisiana: Louisiana Department of Education and the BellSouth Foundation, May 1992.
- Rosenbaum, James E., et al. Youth Apprenticeship in America: Guidelines for Building an Effective System. Washington, DC: William T. Grant Foundation Commission on Youth and America's Future, 1992.
- Schmidt, B. June. What Works in Integrating Vocational and Academic Education. Berkeley, CA: National Center for Research in Vocational Education, 1991.
- "School Board Survey Says 'Yes' to Apprenticeships." Workforce Development Strategies, June 1994.
- Simmons, Tim. "Retooling the School Shop." The News & Observer (Raleigh, NC), 12 December 1993.
- Shelley, Kristina J. U.S. Department of Labor, Bureau of Labor Statistics, Office of Employment Projections. "The Future of Jobs for College Graduates." Monthly Labor Review, July 1992.
- Smith, Hedrick. "Encountering the Unexpected." Challenge to America, July 1993.
- Stanfield, Rochelle L. "Hire Learning." National Journal, 1 May 1993.
- "Ten Elements of Quality Worksite Learning." Review of Learning Through Work by Richard Kazis, et al. Student Apprenticeship News, April 1994.
- Thurow, Lester. Head to Head. New York: William Morrow and Co., 1992.
- "Vocational Educators Use Public Service Announcements to Reach New Students." Workforce Development Strategies, July 1994.
- U.S. Department of Education, Office of Research and Office of Educational Research and Improvement. National Assessment of Vocational Education: Interim Report to Congress. Washington, DC: DOE, 1994.

U.S. Department of Labor, Bureau of Labor Statistics. Occupational Outlook Handbook. 1992-93 ed. Washington, DC: USGPO, May 1992.

U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training. Apprenticeship Past and Present. Washington, DC: USDOL, 1991.

———. National Apprenticeship Program. Washington, DC: USDOL, 1987.

U.S. Department of Labor, The Secretary's Commission on Achieving Necessary Skills. What Work Requires of Schools: A SCANS report for America 2000. Washington, DC: USDOL, June 1991.

U.S. General Accounting Office, Human Resources Division, Report to Congressional Requesters. Apprenticeship Training: Administration, Use, and Equal Opportunity. Washington, DC: USGAO, March 1992.*

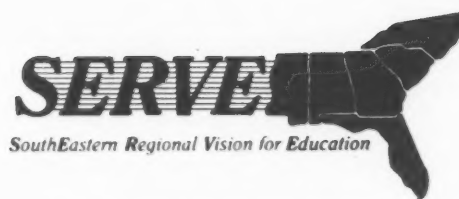
———. Transition From School To Work: States Are Developing New Strategies to Prepare Students for Jobs. Washington, DC: GAO, September 1993.

"We're Not Number One." Editorial. The News & Observer (Raleigh, NC), 2 February 1994.

Winters, Kirk and Brett Scoll. Building Bridges from School to Work: A Background Paper for the Goals 2000: Educate America Satellite Town Meeting. Washington, DC: Office of Policy and Planning, 13 April 1993.

Wirth, Arthur G. Education and Work for the Year 2000: Choices We Face. San Francisco: Jossey-Bass Publishers, 1992.

York, Steven. "The Force is With Them." Challenge to America, July 1993.



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